

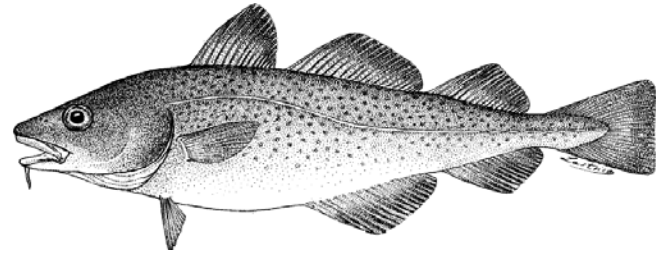
Future concepts for multi attribute eco-labelling



Friederike Ziegler, SIK, The Swedish Institute for Food and Biotechnology

The future environmental labelling of seafood
Workshop in Copenhagen January 19, 2010

Outline



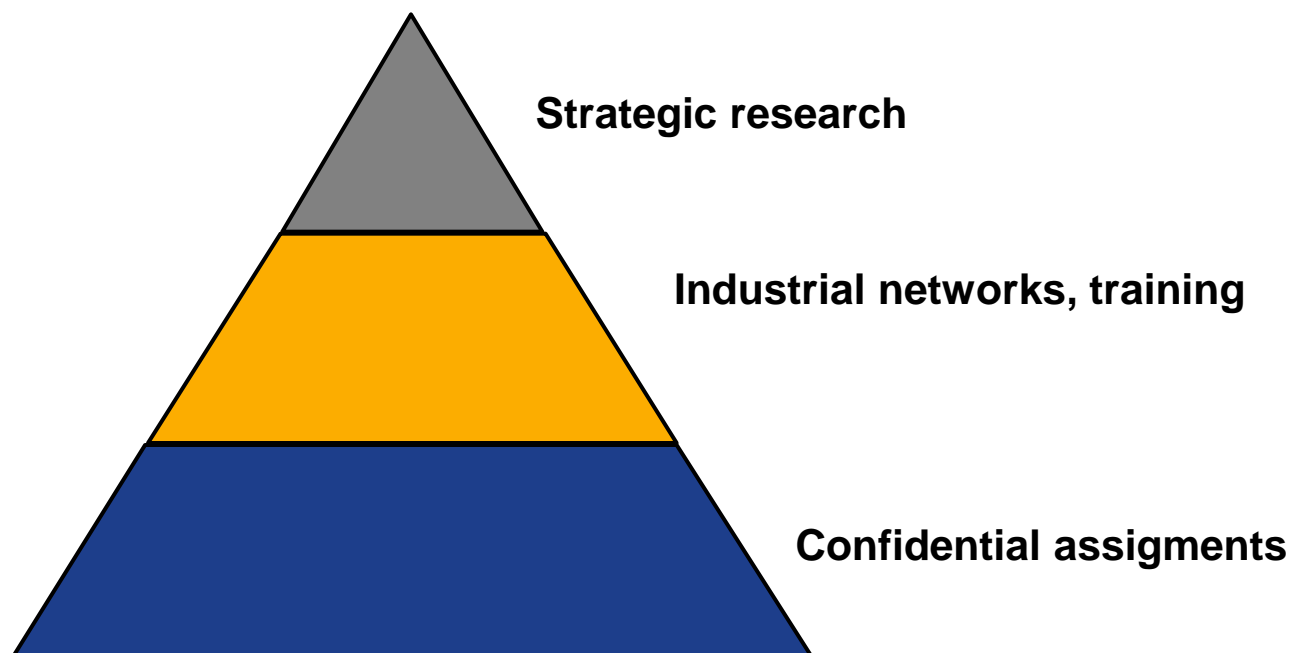
- About SIK and our role in eco-labelling
- The basis for this presentation
- View of existing labels and guides
- The Life Cycle perspective
 - What is it?
 - Why is it necessary?
 - How could it be integrated?
- Challenges for eco-labels (and guides)
- Conclusion

SIK key areas for research and consultancy

- Aroma chemistry
- Material design
- Microbiological risk assessment
- Environmental system analysis
- Process design
- Production development
- Sensory science
- Structure design



Our different ways of working

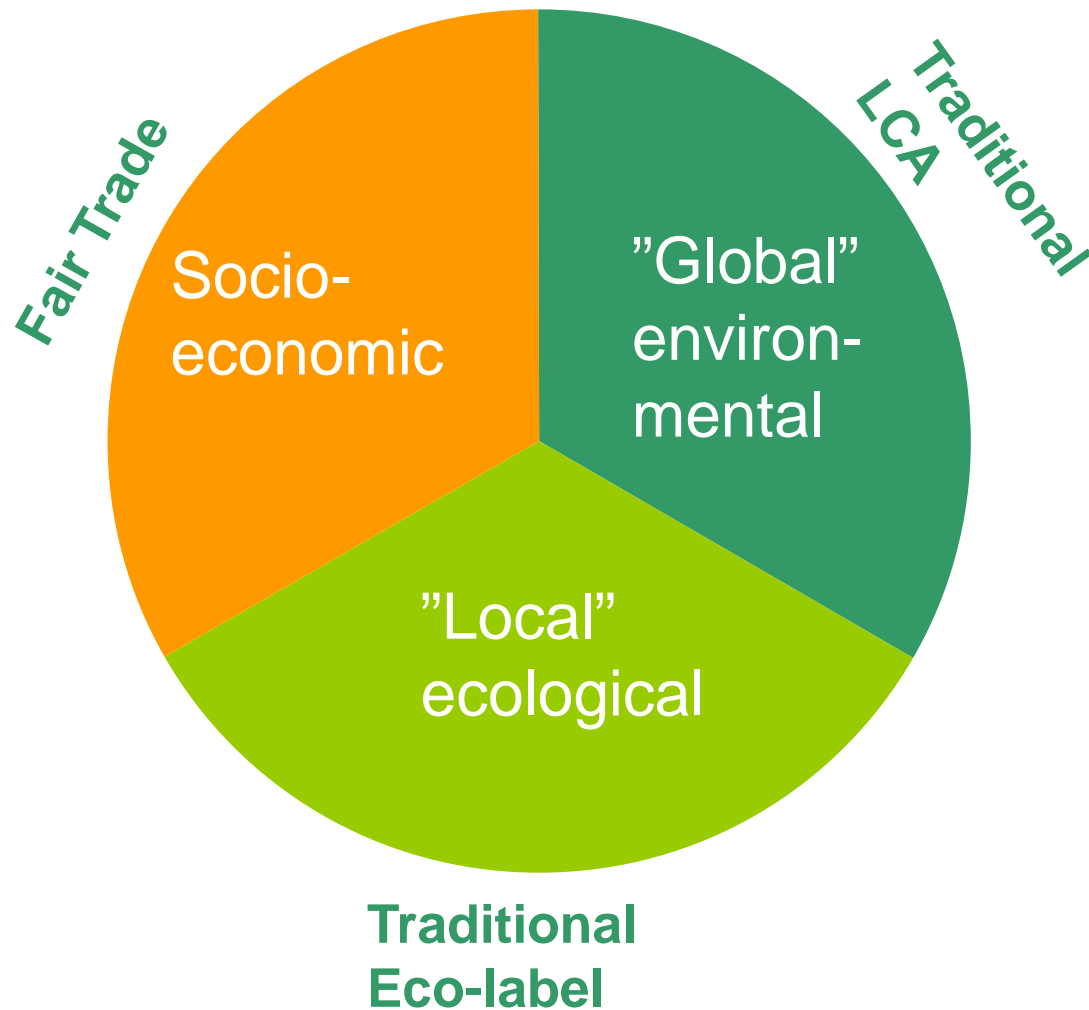


Presentation based on recent publications:

- Eco-labelling of wild-caught seafood products
by M. Thrane, M., F. Ziegler, F. and U. Sonesson, 2009.
Journal of Cleaner Production
- Life Cycle Considerations for Improving Sustainability
Assessments in Seafood Awareness Campaigns
by N. Pelletier and P. Tyedmers, 2008.
Environmental Management
- Conserving wild fish in a sea of market-based efforts
Jacquet et al., 2009.
Oryx The International Journal of Conservation



Sustainability and sustainable fishing- what is it?



The role of eco-labels



- Provide additional information to consumers
- Communicate complex research results
- Support the most sustainable forms of production
- Today required to stay in or enter markets



Consumer guides

- Develop own criteria
- No third-party, independent review
- "Local ecological impacts"
- Resolution: production or consumption?
- Often local products despite global consumption

| SMAKLIG MÅLTID | |
|--------------------------------------|---|
| Abborre (insjöar) | |
| Alaska pollock |  |
| Blåmusslor (repodlade) | |
| Gädda (insjöar) | |
| Gös (insjöar) |  |
| Hoki |  |
| Hummer (svensk) |  |
| Kolja |  |
| Krabba (svensk burfångad) | |
| Lax |   |
| Lake | |
| Liten hälleflundra (västra Grönland) | |
| Makrill |  |
| Nordhavsräka |   |
| Ostron (handplockade/odlade) | |
| Sej |  |
| Sill /strömming |   |
| Skarpsill | |
| Skrubbskädda (Östersjön) | |
| Tonfisk (albacor) |  |
| Torsk (Barents hav) |   |

| VAR FÖRSIKTIG MED | |
|--------------------------------------|---|
| Abborre (Östersjön) | |
| Alaska pollock | |
| Gädda (Östersjön) | |
| Hajmal/pangasius (Asien) | |
| Havskräfta | |
| Hälleflundra (odlad) | |
| Kolja | |
| Krabba | |
| Lax (odlad/Östersjön) | |
| Nordhavsräka | |
| Piggvar (odlad) | |
| Regnbåge (odlad) | |
| Röding (odlad) | |
| Rödspätta |  |
| Sik |  |
| Siklöja |  |
| Slätvar |  |
| Tilapia (odlad) |  |
| Tonfisk (skipjack) | |
| Torsk (odlad/östra Östersjön/Island) | |
| Öring (odlad) | |

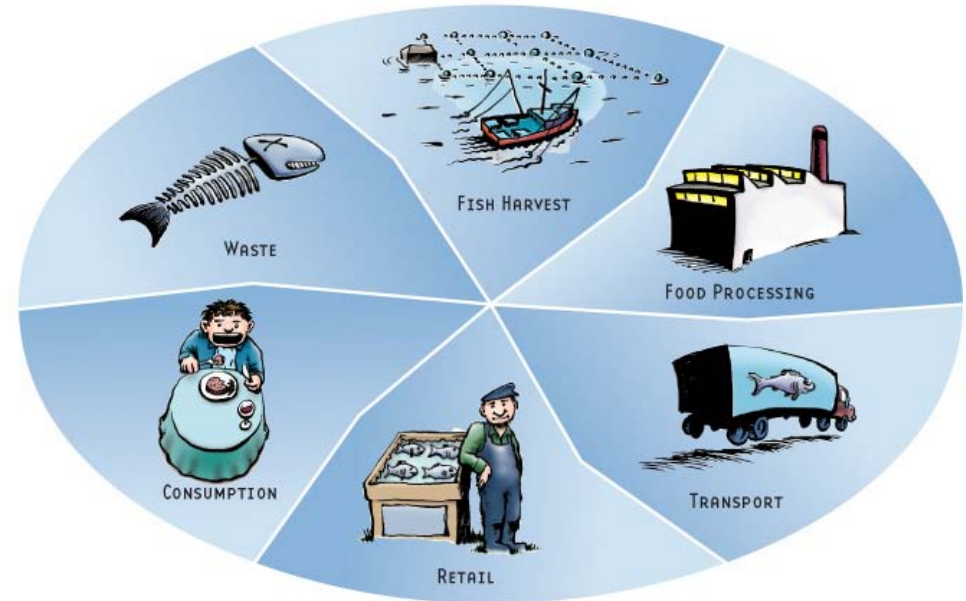
| LÅT BLI | |
|--------------------------------|---|
| Bergtunga | |
| Hajar | |
| Havskatt | |
| Hälleflundra (Nordatlanten) | |
| Lax | |
| Liten hälleflundra | |
| Långa | |
| Marlin | |
| Marulk | |
| Ostron (trådade) | |
| Piggvar (vildfångad) | |
| Rockor | |
| Räkor, tropiska (odlade/vilda) | |
| Rödspätta (bomtrål) | |
| Rödtunga | |
| Svärdfisk | |
| Tonfisk (blåfenad/gulfenad) | |
| Torsk | |
| Tunga | |
| Kungsfisk/uer | |
| Ål |  |

Eco-labels and guides are a good thing- and could become better!

- Focus on central aspects and expand from there
- Continuous improvement, learning by doing process
- Inconsistencies unavoidable!
- Today no reason not to include environmental aspects such as global warming

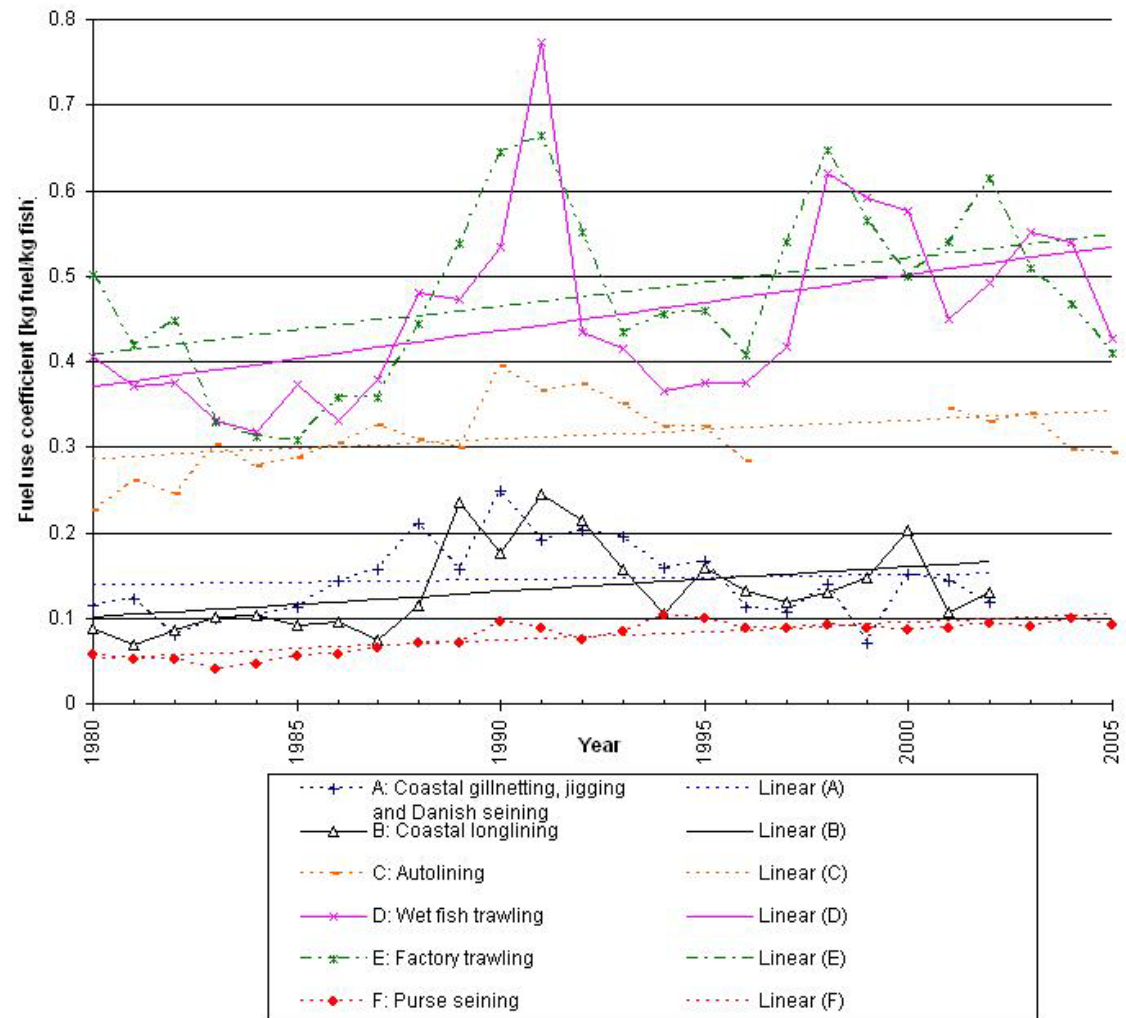
The Life Cycle perspective

- Quantifies resource use and emissions in relation to amount produced
- Follows products from fishing and fish farming through the supply chain
- Carbon footprint=LCA?
Global warming is one of many impact categories in LCAs



Normally no conflict between different environmental aspects

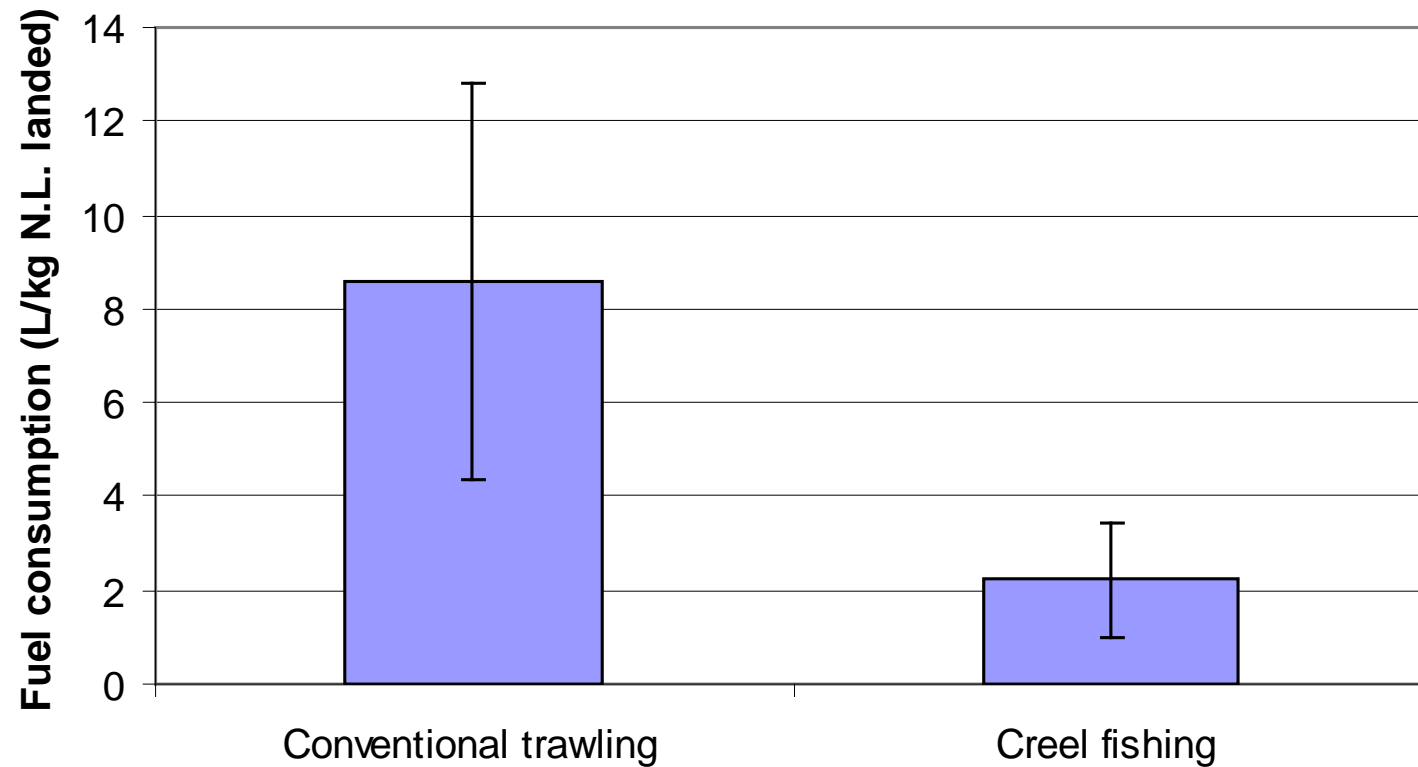
- Energy use has been suggested as an indicator of environmental impact as it often goes hand-in-hand with seafloor impact, by-catch and overexploitation of target stocks.



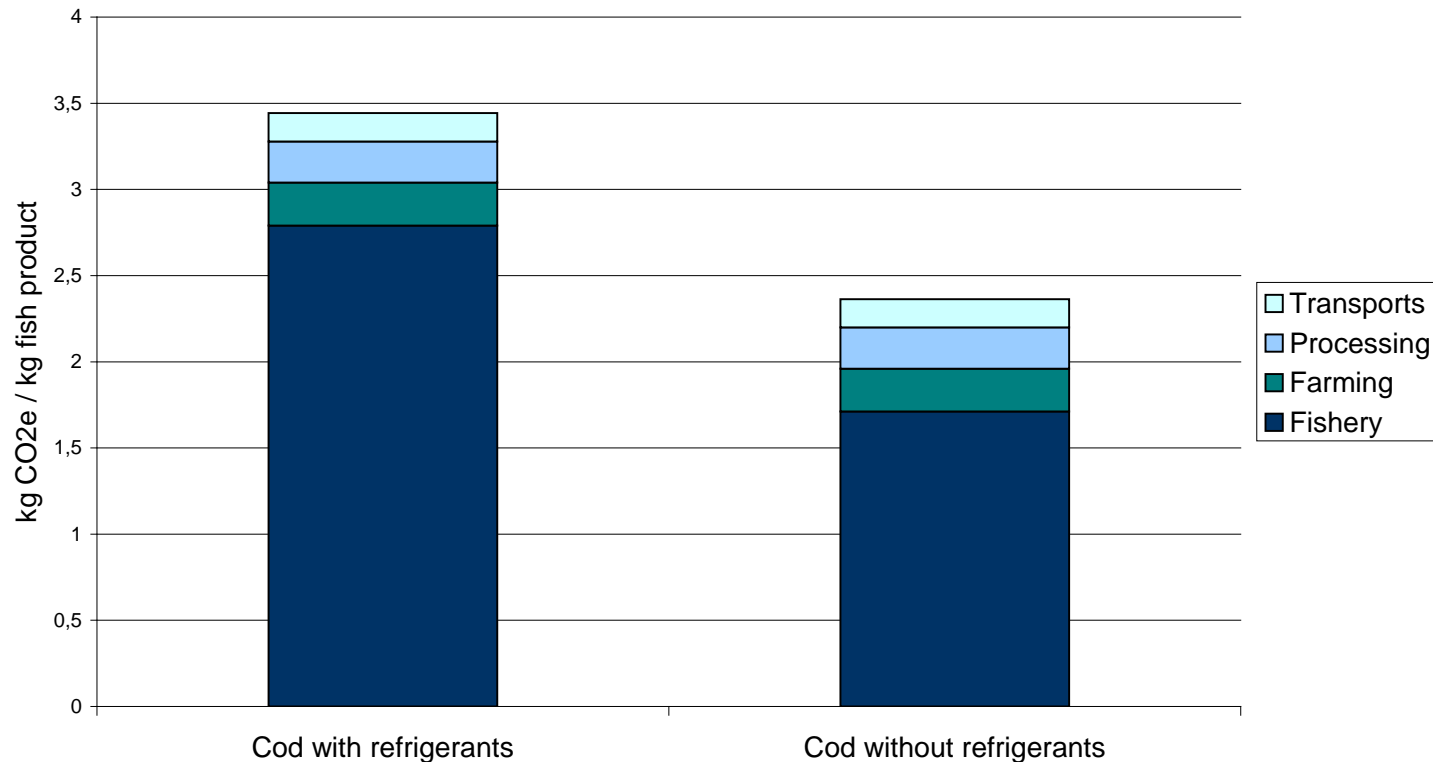
Why necessary to broaden the perspective? Three examples.

- Nephrops trawling in Scotland- best practice?
- Norwegian long-line fishery for cod and haddock- what about refrigerants?
- Land-based aquaculture of e.g. salmon- trade-off between biological aspects and greenhouse gas emissions

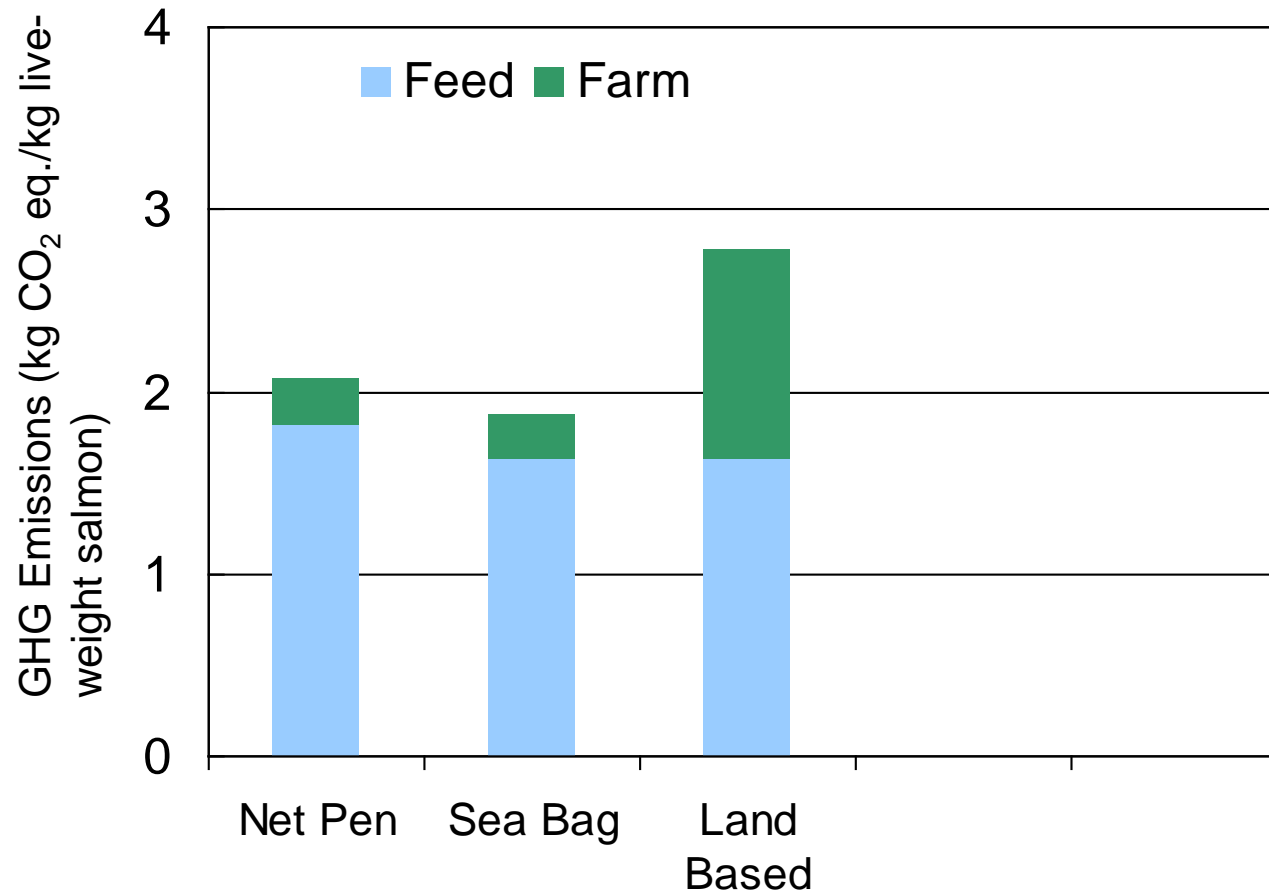
Nephrops between 11-32 kg CO₂e/kg of whole crayfish



Long-lined cod best choice- but climate intensive refrigerants could be avoided...



Farming salmon on land vs. in sea



Carbon label?



Preferable to integrate dimensions of sustainability

- Easier for producers
- Easier for consumers
- More difficult for certifying organisations and certifiers



How integrate the Life Cycle perspective into seafood eco-labelling schemes?

- Added KRAV capture fisheries rules:
 - <0.5 l diesel/kg mixed gutted fish landed for direct consumption
 - <0.07 l diesel/kg mixed whole fish landed in reduction fisheries
 - No synthetic refrigerants allowed onboard
- Similar rules about (salmon) farming could be:
 - Food Conversion Ratio <1
 - Proportion animal-based inputs lower than 40%

Challenges...

- Should all species/fisheries have potential to become certified?
- Trade-off situations
- Lack of data makes generalisation necessary
- Integrate more dimensions of sustainability
- Verification
- Strategy for updating



Despite this...

- Increased knowledge gives opportunities for improvement
- Eco-labels no matter how narrow are a step in the right direction
- Can make consumers who don't eat seafood for environmental reasons regain confidence



A large school of fish, possibly salmon, swimming in clear blue water. The fish are densely packed in the center and spread out towards the edges, creating a dynamic pattern. The water is a deep, clear blue, and the lighting suggests a bright, sunny day.

Conclusion: Eco-labelling is important and could be further improved by integrating a Life Cycle perspective!

Thanks for coming!

But from a climate perspective, there are better seafood choices...

